

Name: _____

pa1106: Factoring with box when $a = \text{prime}$ (v16)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18 , until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	
2x	$2x^2$	$-12x$
3	$3x$	-18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 23x + 40$.

*	x	
3x	$3x^2$	$15x$
8	$8x$	40

ANSWER: $(3x + 8)(x + 5)$

Question 2

Use the box to factor $7x^2 - 31x - 20$.

*	x	-5
7x	$7x^2$	-35x
4	4x	-20

ANSWER: $(7x + 4)(x - 5)$

Question 3

Use the box to factor $5x^2 - 19x + 18$.

*	x	-2
5x	$5x^2$	-10x
-9	-9x	18

ANSWER: $(5x - 9)(x - 2)$